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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/935,365

Applicant(s)
Roberts et al.

Examiner
Marianne S. Ocampo

Group Art Unit
1723



☒ Responsive to communication(s) filed on Feb 16, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-7, 18, and 19 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-7, 18, and 19 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Specification

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "60" and "62" have both been used to designate "underdrain block", and reference characters "60", "62" and "90" have been used to designate "F-extrusions". Applicant has used reference character "62" to refer to a preferred embodiment of said underdrain block, as done so in figures 4, 4A & 4B. However, reference characters "60" and "62" have been used interchangeably throughout the disclosure without reference to a specific embodiment. It is suggested that only one reference character may be used for said underdrain block, otherwise, it is advised that the disclosure be revised and edited for consistency in using the appropriate reference characters. Correction is required.
3. The disclosure is objected to because of the following informalities: the word "though" should be changed to "through" in line 19, page 2; the word "not" should be added after the word "does" in line 23, page 4; and the word "be" should be omitted in line 11, page 14.

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Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (U.S. 5,489,388).

6. Brown et al. (U.S. 5,489,388) disclose a gravity filtration system or apparatus (10) comprising a lateral underdrain block (12, 146), wherein said underdrain block (12, 146) is supporting a filter media bed (14). Brown et al. disclose said underdrain block (12, 146) comprising an upper wall (148), side walls (154), and a lower wall (150), at least one lateral member (internal wall, 154) within said underdrain block (12, 146) between said upper or top wall (148) and lower or bottom wall (150), and further comprising at least two chambers (conduits, 156 & 158) within said underdrain block (12, 146), wherein said chambers (36, 38, 156, 158) are being defined by said lateral member (154), a plurality of upper orifices (apertures, 170) in said upper wall (148) of said underdrain block (12, 146), and a plurality of

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internal orifices in said lateral member (154), whereby said underdrain block (12, 146) is substantially greater in longitudinal length than a longitudinal distance between said upper orifices (170), as seen in figure 11 (instant claim 1). Brown et al. also disclose said underdrain block (12, 146) comprising a conduit (22, 24) in said lower wall (18, 150) for an effluent to flow out of said underdrain (12, 146), and for water and air to flow into said underdrain block (12, 146) [instant claim 2]. Brown et al. further disclose said underdrain block (12, 146) comprising a passageway (36, 38, 156, 158) between an end of at least one chamber (36, 38, 156, 158) of said underdrain block (12, 146) and a wall sleeve (20), wherein said wall sleeve (20) provides a conduit (20, 22, 24) for said effluent to flow out of and for water and air to flow into said underdrain block (12, 146), as stated in column 4, lines 63 - 68, and column 5, lines 44 - 51 (instant claim 3). Furthermore, Brown et al. disclose the longitudinal length of said underdrain block (12, 146) extending the length of said filter bed (14), as seen in figure 1 (instant claim 4), and disclose using/testing said lateral underdrain block (12, 146) having a longitudinal length of 4 ft. - 40 ft., as given in examples I - II and in table I, wherein said underdrain block (12, 146) is at least 5 feet (instant claim 5), is at least 10 feet (instant claim 6), and/or at least 20 feet (instant claim 7).

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (U.S. 5,489,388) in view of Brown et al. (U.S. 5,269,920).

10. Brown et al. (U.S. 5,489,388) has been expanded above. Brown et al. fail to disclose an underdrain block comprising three lateral members within said underdrain block, in which said three lateral members comprising two vertical lateral members and one horizontal lateral member,

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wherein said vertical lateral members dividing the interior of said underdrain blocks into three sections of approximately equal sizes, and said horizontal lateral member intersecting said vertical lateral members such that said horizontal lateral member further divides said interior into six chambers, which comprise of three upper chambers of approximately equal sizes, and three lower chambers, also of approximately equal sizes being located above and below said horizontal lateral member, respectively. Brown et al. (U.S. 5,269,920) teach an underdrain block (16) comprising five lateral members (internal walls, 40), wherein 4 of said lateral members (40) are vertical, or at least substantially vertical lateral members and one horizontal lateral member, as seen in figure 1. Brown et al. (920) teach said horizontal and vertical lateral members or internal walls (40) dividing the interior of said underdrain block (16) into 6 chambers or conduits (42, 34), wherein three of said six chambers are upper chambers (34) above said horizontal lateral member, and the other three chambers (42) are below said horizontal lateral member, wherein at least two of said lower and upper chambers (42, 34), respectively, are approximately equal in dimension, as seen in figure 1. It is also obvious to divide said interior of said underdrain block (16) into chambers of approximately equal sizes, according to the design and desired effect of said design on the backwash flow of water/air into said underdrain block (instant claim 18). It is considered that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the underdrain block of Brown et al. (388) in lieu of the underdrain block of Brown et al. (920) in order to provide a plurality of interconnecting chambers or conduits to evenly distribute and mix the back washing water and air passing through said underdrain block before introduction to the

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filter media bed for an improved scouring and cleaning of the filter media, as stated in column 4, lines 37 - 45.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (388) and Brown et al. (920), as applied to claim 18 above, and further in view of Eades et al. (U.S. 4,579,659).

11. Brown et al. (388), as modified by Brown et al. (920), have been expanded above. Brown et al. (388), as modified by Brown et al. (920), fail to disclose a plurality of air nozzles locate in each section of the underdrain, wherein each air nozzle is located at different lengths or points along the length of said underdrain, and furthermore, said air nozzle comprising a pipe having a closed end and an open end, wherein said open end is situated in said upper chamber substantially near said horizontal lateral member, and said pipe is extending from said lower wall of said underdrain through an internal orifice into said upper chamber, having a vertical slot proximate said closed end of said pipe and situated in the lower chamber substantially near said lower wall, and having a hole situated in said lower chamber substantially near said horizontal lateral member. Eades et al. (4,579,659) teach a gravity filter including an underdrain (12) having a plurality of air nozzles (20) located in each section of said underdrain (12), wherein each nozzle (20) is located at different lengths or points along the length of said underdrain (12), as seen in figures 1 - 2. 12.

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Eades et al. (659) teach each of said nozzles (20) comprising a pipe or tube sheet (21) having a closed end (34) and an open end (35), wherein said open end (35) is situated substantially near a horizontal lateral member (21), and having a plurality of slots (38) proximate said closed end (34). Although Eades et al. do not teach said slot (38) is vertical or horizontal, it is obvious and well known that the orientation of said slots (38) is arbitrary depending on the whim or design specification of the manufacturer of said air nozzle pipes. It is also well-known in the art that the location of said closed end and open end of air nozzle pipes can be below or above a horizontal lateral member of an underdrain assembly or block, in other words, said closed and open ends can be situated in the lower chamber and upper chamber, respectively, depending on the desired effect or distribution of air within said underdrain block (instant claim 19). It is considered that it would have been obvious to one of ordinary skill in the art to add the embodiments of the underdrain assembly taught by Eades et al. (659) to that underdrain block of Brown et al. (388), as modified by Brown et al. (920), in order to provide a uniform air flow distribution within said underdrain system, as stated in column 1, lines 56 - 59.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Monday - Friday from approximately 7:00AM - 3:30PM.

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14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker, can be reached on (703) 308-0457.

15. The fax phone number for **Unofficial** faxes (i.e. faxes not to be entered, drafts) for Technology Center 1700 is **(703) 305-3602**. The fax number for **Official** faxes (i.e. faxes to become part of the file history) for this Center is **(703) 305-3599**. When filing a fax in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

16. Any inquiry of a general nature or relating to the status for this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

W. L. Walker
W. L. WALKER
PRIMARY EXAMINER
GROUP 1300

M. S. O.

March 3, 1999